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CENTRAL FAX CENTER 10/585,793
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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) A process for producing acrylic acid, comprising the steps of:

a) vaporizing a raw material comprising an aqueous glycerol solution to generate a first gas, wherein said aqueous glycerol solution has a water content of not more than 20% by weight;

b) applying a dehydration reaction to glycerol in a gas phase that includes said first gas; and then

c) applying a gas phase oxidation reaction to a gaseous reaction product formed by the dehydration reaction to obtain said acrylic acid.

2. (canceled).

3. (previously presented) The process for producing acrylic acid according to claim 1, wherein the dehydration reaction and the gas phase oxidation reaction are conducted in a tandem-type reactor.

4. (previously presented) The process for producing acrylic acid according to claim 3, wherein oxygen is added to a gas which is transferred from the dehydration reaction to the gas phase oxidation reaction.

5. (previously presented) The process for producing acrylic acid according to claim 1, wherein the dehydration reaction and the gas phase oxidation reaction are conducted

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in a single-type reactor.

6. (previously presented) The process for producing acrylic acid according to claim 1, and further comprising the steps of:

a) adding an inert gas to the first gas to obtain a resultant mixed gas, wherein the inert gas is selected from the group consisting of nitrogen gas, carbon dioxide gas and rare gas; and

b) controlling a concentration of said inert gas in said resultant mixed gas to a concentration of not less than 50% by volume.

7. (new) The process for producing acrylic acid according to claim 1, wherein the gas phase in which the dehydration reaction is conducted is a mixed gas comprising glycerol, water vapor and oxygen.

8. (new) The process for producing acrylic acid according to claim 7, wherein the amount of the water vapor relative to the glycerol in the mixed gas is not larger than 1.2 times by mol.

9. (new) The process for producing acrylic acid according to claim 1, wherein the acrylic acid is used to produce a water-absorbent resin.

10. (new) A use of acrylic acid obtained by the process for producing acrylic acid according to claim 1 as a raw material for producing a water-absorbent resin.

11. (new) A water-absorbent resin produced from acrylic acid obtained by the process for producing acrylic acid

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according to claim 1.

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